REMARKS

The Applicant respectfully requests reconsideration in view of the following remarks and amendments. Claims 20, 21, 23, 24, 27, 29, 30, 32, 33, 36, 38, 39, 41, 42, and 45 are amended. Accordingly, claims 20-46 are pending in the application.

I.   Claims Rejected Under 35 U.S.C. § 112

Claims 24-26 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner alleged that it is well established that during compression of the image the number of rectangles or tiles used to encode the image is recorded in the file header, and the number of tiles or rectangles or tiles used in the decompressed image will be the same unless this values is changed by the decompression (decoding) unit. The Applicant will discuss the Examiner's conclusion in the following section related to the § 103 rejection of these claims. Further, the Examiner stated that claims 24-26 will be interpreted such that the number of tiles in the master and compressed images are the same since there is no indication that the number of tiles has been changed and thus the quality value will be based only on the number of tiles used to encode the image.

In response, the Applicant respectfully submits that the Examiner has confused the breadth of the claim language with indefiniteness. See MPEP § 2173.04. If the scope of the subject matter embraced by the claims is clear, and if the Applicant has not otherwise indicated that scope of the invention is different from that defined in the claims, then the claims comply with 35 U.S.C. § 112, second paragraph. Id. Claim 24, for example, recites the elements of "the information of the master image data stored in the file header of the image compressed code is the number of rectangular regions of the entire file of the master image data, and the information of the image compressed code of the dynamic image data is the number of rectangular regions of the dynamic image data." The Specification, in similar fashion, discloses that the master image data and dynamic image data include respective number of rectangles without requiring the number of rectangles be equal as proposed by the Examiner. See Specification, paragraph [0104]. It should be apparent that the scope of claim 24 is consistent with the Specification's disclosure of the respective rectangular regions in the master image data and the dynamic image

data. Therefore, for at least these reasons, claim 24 complies with 35 U.S.C. § 112, second paragraph. Claims 25 and 26 also comply with 35 U.S.C. § 112, second paragraph, because these claims were rejected solely based on their dependencies on claim 24. Accordingly, the Applicants respectfully request reconsideration and withdrawal of the rejection of claim 24-26.

II. Claims Rejected Under 35 U.S.C. § 103

Claims 20, 29, and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,076,103 issued to Yamada (hereinafter "Yamada").

Claim 20, as amended, recites the elements of "the picture quality calculated by substituting, into a non-linear function, a ratio of a number of code bits of an entire file of the master image data and a number of code bits of the dynamic image data." Support for the amendments may be found, for example, in paragraphs [0089] of the Specification. Yamada fails to teach or suggest these elements. Moreover, paragraph [0088] of the Specification discloses the following:

> A step S4 obtains a picture quality value of the image data after the expansion (expanded image data) by relatively judging the picture quality based on the number of code bits of the entire master image file "M" extracted by the step S2 and the number of code bits of the distributed image compressed code (Motion JPEG2000 data) distributed from the server computer S and calculated by the step S3. For example, the picture quality value of the expanded image data is obtained by substituting into a predetermined function a ratio of the number of code bits of the entire master image file "M" extracted by the step S2 and the number of code bits of the distributed image compressed code (Motion JPEG2000 data) distributed from the server computer S and calculated by the step S3.

In other words, as disclosed above, Yamada fails to teach or suggest that the "picture quality" judged by the "judging unit" of independent claim 20, for example, is calculated by substituting, into a non-linear function (shown in Fig. 14 of the Specification), "a ratio" of "the number of code bits of the master image data" and "the number of code bits of the dynamic image data." Instead, Yamada relies upon compression information stored in the file header of the compressed image file. See Yamada, column 4, lines 57-63. This compression information is disclosed as including a compression ratio for the image data. See Yamada, column 2, lines 28-30. However, to determine the image quality, Yamada discloses that the compression information is compared with a compression mode stored in memory instead of performing a calculation using a non-

linear function as required by claim 20. See Yamada, column 5, lines 30-34. Consequently, in view of at least these foregoing reasons, Yamada fails to teach or suggest each element of claim 20.

Further, the Examiner has taken Official Notice (see page 5 of the Office Action) that "one of ordinary skill in the art would fully recognize that this step [of judging image quality] could be completed upon compression of the image using the compression information generated during compression or after compression using the same compression information that has been stored in the header of the compressed data file without changing the end result, which is an indication of the quality of the image." However, as shown in Fig. 5, Yamada is required to judge the image quality of the image file *before compression* takes place to enable the functionality of warning the user of a potential reduction in image quality and to allow the user to modify the compression mode in this case. See Yamada, column 7, lines 2-16. Preserving image quality is one of the goals in Yamada to avoid "a serious misdiagnosis such as overlooking focus may occur in the case where the image quality is actually not high-quality." See Yamada, column 2, lines 1-3. Under MPEP § 2143.01(VI), if the proposed modification would change the principle of operation of the prior art invention being modified, then the references are not sufficient to render the claims *prima facie* obvious. See also In re Ratti, 123 USPQ 349 (CCPA 1959). Therefore, the modification of Yamada proposed by the Examiner (i.e., judging image quality after compression) would change Yamada's principle of operation in preserving image quality *before the compression* takes place. Therefore, the Examiner's taking of Official Notice is untenable.

Notwithstanding the Examiner's proposed reordering of the process of judging image quality, as discussed above, the information stored in the file header is related to *a compression ratio* (e.g., 1/5, 1/10, 1/20, 1/40) instead of "the information of the master image data stored in the file header of the image compressed code is the number of code bits of the entire file of the master image data," as recited in claim 20. To determine the level of image quality, Yamada discloses that the compression ratio stored in the file header is matched with a compression mode stored elsewhere in memory. See Yamada, column 5, lines 31-33 and 43-48; Fig. 3. Thus, the compression ratio (i.e., a fractional number such as 1/5) stored in the image file is not equivalent to "the number of code bits" because a skilled artisan would recognize that it would be

technologically nonsensical for image data to have a fractional code size (e.g., 1/5 code bits). Yamada also fails to disclose any operations using the compression ratio to derive the size of the image as suggested by the Examiner.

Next, the Examiner concluded that "one could either provide the compression ratio and quality level indicator at generation of the compressed image and store it in the header, or *store the raw data in the header* and determine the compression ratio and quality level indicator at a later time" (emphasis added). It is unclear what the Examiner means by the phrase "the raw data in the header." Therefore, the Applicant respectfully requests that the Examiner clarify the phrase "raw data" if the Examiner maintains the taking of Official Notice. If the Examiner is proposing that "raw data" corresponds to the elements of "the number of code bits of the entire file of the master image data," as recited in claim 20, then the Examiner's Official Notice has been premised upon improper hindsight bias afforded after viewing the Applicant's Specification. As required by MPEP § 2142, to establish a *prima facie* case of obviousness, the legal conclusion must be reached on the basis of the facts *gleaned from the prior art*. As discussed above, Yamada relies upon a compression ratio represented by *a fractional number* stored in the file header to determine the image quality instead of "the number of code bits of the entire file of the master image data," as recited in claim 20. See Yamada, column 5, lines 31-33 and 43-48. Therefore, the Examiner has arrived at his conclusion of storing "raw data" in the header based on the Applicant's Specification. As a result, the Examiner has failed to properly establish a *prima facie* case of obviousness because of improper hindsight bias.

Thus, for at least the above reasons, the Applicant traverses the Examiner's taking of Official Notice. Moreover, in view of at least the reasons set forth above, Yamada fails to teach or suggest each element of claim 20. Accordingly, reconsideration and withdrawal of the rejection of claim 20 are respectfully requested.

With respect to claims 29 and 38, these claims, as amended, recite analogous limitations to those in claim 20. Therefore, for at least the reasons discussed above in connection with claim 20, these claims are patentable over Yamada. The above comments related to traversing the Examiner's taking of Official Notice are also applicable for claims 29 and 38 as well. Accordingly, reconsideration and withdrawal of the rejection of claims 29 and 38 are respectfully requested.

Claims 21-28, 30-37, and 39-46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamada as applied to claims 20, 29, and 38 above, and further in view of "The JPEG2000 Still Image Coding System: An Overview," Skodras et al. (hereinafter "Skodras").

Claim 21, as amended, recites the elements of "the picture quality to be calculated by substituting, into a non-linear function, a ratio of a number of bit planes of an entire file of the master image data and a number of bit planes of the dynamic image data." Support for the amendments may be found, for example, in paragraphs [0098] and [0099] of the Specification. The Examiner conceded (see page 7 of the Office Action) that Yamada and Skodras fail to teach or suggest the elements related to "a number of bit planes" in the manner recited in claim 21. However, the Examiner then generally pointed to Annex A in ISO/IEC 15444-1 (hereinafter "JPEG2000") as allegedly disclosing these missing elements. However, the Examiner has failed to cite to a particular portion of Annex A in JPEG2000 that discloses the missing elements. The Applicant has reviewed the 50 pages of Annex A in JPEG2000 and cannot discern the portion that discloses elements related to "a number of bit planes." If the Examiner maintains the rejection, the Applicant respectfully requests that the Examiner clarify the rejection by *specifically citing* the relevant portions (e.g., page number) of JPEG2000. Moreover, the Applicant notes that in Fig. I-1 (see page 139 of JPEG2000), the illustrated file format for a JPEG2000 file does not disclose "a number of bit planes," as required by claim 21. Consequently, in view of at least the foregoing reasons, Yamada and Skodras and JPEG2000 fail to teach or suggest each element of claim 21.

Further, the Examiner took Official Notice (see page 7) that it was notoriously well known to one of ordinary skill in the art that the number of bit planes used in an image is a measure of image quality. However, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art. See In re Ahlert, 424 F.2d at 1091, 165 USPQ at 420-21; MPEP 2144.03. However, without substantiating his rationale, the Examiner improperly concluded that bit planes are used to measure image quality. Again, it appears that the Examiner has improperly asserted Official Notice based on hindsight bias after viewing the Applicant's Specification. In contrast, as discussed above, the portion of JPEG2000 relied upon by the Examiner (i.e., Annex A) fails to disclose that a number of bit planes are

stored in the header of the image file. See also JPEG2000, page 139; Fig. I-1. Therefore, the Examiner's taking of Official Notice is untenable in light of what is disclosed in JPEG2000.

Moreover, the Examiner cannot reach conclusions based on his own understanding or experience, or even through an assessment of what would be basic knowledge or common sense, and must point to some concrete evidence in the record to support his findings. See In re Zurko, 258 F.3d 1379 at 1386 (Fed. Cir. 2001). Under the Administrative Procedure Act, USPTO Board decisions are subject to a substantial evidence standard of review. See MPEP § 2144.03. By extension, the Examiner's taking of Official Notice must also meet the substantial evidence standard. Therefore, because the Examiner's statement failed to point to any citation or evidence, the taking of Official Notice was equivalent to an assessment of basic knowledge and common sense not based on any evidence in the record and, as a result, lacks substantial evidence support. See Zurko at 1385. Thus, for at least these reasons, the Applicant traverses the Examiner's taking of Official Notice.

Thus, in view of at least the above reasons, claim 21 is patentable over Yamada, Skodras, and JPEG2000. In addition, claim 22 is patentable over Yamada, Skodras, and JPEG2000 because of its dependency on claim 21. Accordingly, reconsideration and withdrawal of the rejection of claims 21 and 22 are respectfully requested.

With respect to claim 23, this claim, as amended, recites the elements of "the picture quality to be calculated by substituting, into a non-linear function, a ratio of a resolution of an entire file of the master image data and a resolution of the dynamic image data." Support for the amendments may be found, for example, in paragraphs [0098] and [0101] of the Specification. The Examiner on page 8 of the Office Action conceded that Yamada fails to teach or suggest the elements related to the "resolution" of the "master image data" and the "dynamic image data." Moreover, the portion of Skodras cited by the Examiner fails to disclose the relationship between the resolution of the dynamic image data being less than the resolution of the master image data as recited in claim 23. See Skodras, page 1119. Further, for at least the same reasons discussed in connection with claim 21, the Applicant traverses the Examiner's non-substantiated taking of Official Notice with respect to the element of "resolution" being an indicator of image quality to meet the recited elements in claim 23. As a result, for at least these reasons, Yamada in view of

Skodras fails to teach or suggest each element of claim 23. Accordingly, reconsideration and withdrawal of the rejection of claims 23 are respectfully requested.

In regard to claim 24, this claim, as amended, recites the elements of "the picture quality to be calculated by substituting, into a non-linear function, a ratio of a number of rectangular regions of an entire file of the master image data and a number of rectangular regions of the dynamic image data." Support for the amendments may be found, for example, in paragraphs [0098] and [0106] of the Specification. On page 9 of the Office Action, the Examiner conceded that Yamada fails to teach or suggest the elements related to "a number of rectangular regions." Moreover, the portion of Skodras fails to disclose the missing elements. Instead, Skodras that a JPEG2000 format may include additional data such as image size, bit depth, colorspace, palette, type and ordering of components within the codestream, resolution, codestream, and intellectual property about the image. See Skodras, page 1119. However, none of the preceding data relates to "a number of rectangular regions" in the manner recited in claim 24. The Examiner also alleged that Skodras discloses that the number of tiles in the decoded image are the same as that of the master image. Instead, Skodras simply discloses that tiling relates to the partition of the original image into non-overlapping blocks to accomplish independent compression of each tile as if each tile were an independent image. See Skodras, page 1107. The alleged relationship of equal tiles in the *decoded image* is not disclosed in Skodras as proposed by the Examiner. Thus, the Examiner's assertion based on this section of Skodras is untenable. In addition, for at least the same reasons discussed in connection with claim 21, the Applicant traverses the Examiner's non-substantiated taking of Official Notice with respect to the elements of "rectangular regions" being an indicator of image quality to meet the recited elements in claim 24. Consequently, for at least these reasons, Yamada in view of Skodras fails to teach or suggest each element of claim 24. Moreover, claims 25 and 26 are patentable over Yamada in view of Skodras because of their dependencies on claim 24. Accordingly, reconsideration and withdrawal of the rejection of claims 24-26 are respectfully requested.

With respect to claim 27, this claim, as amended, recites the elements of "the picture quality to be calculated by substituting, into a non-linear function, a ratio of a number of frames of an entire file of the master image data and a number of frames of the dynamic image data." Support for the amendments may be found, for example, in paragraphs [0098] and [0105] of the

Specification. On page 11 of the Office Action, the Examiner conceded that Yamada and Skodras fails to teach or suggest the elements related to "a number of frames." The Examiner then vaguely pointed to ISO/IEC 15444-3 (hereinafter "Motion JPEG") as allegedly disclosing these missing elements. However, the Applicant has reviewed the 43 pages of Motion JPEG and cannot discern the portion that discloses the missing elements. If the Examiner maintains the rejection, the Applicant respectfully requests that the Examiner clarify the rejection by *specifically citing* the relevant portions (e.g., page number) of JPEG2000. Instead, as shown in Table 1.1 on page 12, JPEG2000 fails to disclose anything related to a number of frames in the manner recited in claim 27. Consequently, for at least these reasons, Yamada, Skodras, and JPEG2000 fail to teach or suggest each element of claim 27.

Further, the Examiner then proposed a series of conclusions and took Official Notice related to the number of frames being an indicator of quality (see page 11) that appear to be based on his own understanding or experience without pointing to some concrete evidence in the record to support his findings. See In re Zurko, 258 F.3d 1379 at 1386 (Fed. Cir. 2001). For example, the Examiner discussed the non-dropping of frames and then, conversely, the dropping of frames that are entirely devoid of any specific citation to Motion JPEG or any other art of record to properly support these conclusions. As discussed above, under the Administrative Procedure Act, USPTO Board decisions are subject to a substantial evidence standard of review. See MPEP § 2144.03. Again, by extension, the Examiner's taking of Official Notice must also meet the substantial evidence standard. Therefore, because the Examiner's statement failed to point to any citation or evidence, the taking of Official Notice was equivalent to an assessment of basic knowledge and common sense not based on any evidence in the record and, as a result, lacks substantial evidence support. See Zurko at 1385. Thus, for at least these reasons, the Applicant traverses the Examiner's taking of Official Notice and the related conclusions stated by the Examiner on page 11 of the Office Action.

Thus, in view of the foregoing reasons, claim 27 is patentable over Yamada, Skodras, and JPEG2000. Moreover, claim 28 is patentable over Yamada, Skodras, and JPEG2000 because this claim depends on claim 27. Accordingly, reconsideration and withdrawal of the rejection of claims 27 and 28 are respectfully requested.

With respect to claims 30 and 39, these claims recite analogous limitations to those in claim 21. Thus, for at least the reasons discussed in connection with claim 21, claims 30 and 39 are patentable over the art of record. In addition, dependent claims 31 and 40 are patentable over the cited art because each of these claims depends on claim 30 or 39. Accordingly, reconsideration and withdrawal of the rejection of claims 30, 31, 39, and 40 are respectfully requested.

With respect of claims 32 and 41, these claims, as amended, recite analogous elements to those in claim 23. Therefore, for at least the reasons discussed in connection with claim 23, claims 32 and 41 are patentable over the art of record. Accordingly, reconsideration and withdrawal of the rejection of claims 32 and 41 are respectfully requested.

With respect of claims 33 and 42, this claim recite analogous elements to those in claim 24. Therefore, for at least the reasons discussed in connection with claim 24, claims 33 and 42 are patentable over the cited art. In addition, dependent claims 34, 35, 43, and 44 are patentable over the art of record because each of these claims depends on either base claim 33 or 42. Accordingly, reconsideration and withdrawal of the rejection of claims 33-35 and 42-44 are respectfully requested.

In regard to claims 36 and 45, these claims recite analogous limitations to those in claim 27. Thus, for at least the reasons discussed above in connection with claim 27, claims 36 and 45 are patentable over the cited art. In addition, dependent claims 37 and 46 are patentable over the art of record because each of these claims depends on either base claim 36 or 45. Accordingly, reconsideration and withdrawal of the rejection of claims 36, 37, 45, and 46 are respectfully requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207 3800.

Respectfully submitted,

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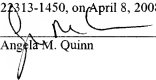
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Angela M. Quinn   April 8, 2008

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